REMARKS

The specification is objected to for reasons stated in the Office Action. The title is amended above such that it is clearly indicative of the invention to which the claims are directed. Accordingly, reconsideration of the objection to the specification is requested.

The drawings are objected to for reasons indicated in the Office Action. The claims are amended herein to state a first base semiconductor layer "which extends across the upper surface of the collector region to the upper surface of the isolation regions". As shown in FIGs. 3-12, the first base semiconductor layer 40 extends across the upper surface of the collector region 16 in a horizontal direction to the upper surface of the isolation regions 20. Accordingly, with the clarifying amendment to the claim, all claimed features are shown in the drawings. Therefore, it is believed that the objection to the drawings is overcome, and reconsideration thereof is requested.

The claim 5 is objected to as having incorrect dependency. Claim 5 is amended such that it depends from claim 4 instead of claim 1. Reconsideration of the objection to the claims is requested.

The Applicant notes that the Office Action indicates at page 9, paragraph 11, that claim 10 would be allowable if rewritten in independent form. Accordingly, claim 10 is rewritten in independent form as new claim 21. New claims 22-28 are added to depend from new claim 21. Allowance of claims 21-28 is respectfully requested.

Claims 1-3 and 6 are rejected under 35 U.S.C. 103(a) as obvious over Ryum, *et al.* (U.S. Publication Number 2002/0058388) in view of Arai (U.S. Publication Number 2004/023526). Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as obvious over Ryum, *et al.* in view of Arai and Kameyama, *et al.* (U.S. Patent No. 5,183,768). Claim 7 is rejected under 35 U.S.C. 103(a) as obvious over Ryum, *et al.* in view of Arai and Josquin, *et al.* (U.S. Patent No. 5,023,192).

Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as obvious over Ryum, *et al.* in view of Arai and Ryum, *et al.* (U.S. Patent No. 5,798,277 - hereinafter Ryum '277). In view of the following remarks, the rejections are respectfully traversed, and reconsideration of the rejections is requested.

In the present invention of claims 1-10, a bipolar transistor includes second base semiconductor layers formed on the portions of a first base semiconductor layer except for the portions having an emitter region and emitter insulating layers.

Ryum, *et al.* discloses a base layer (21b and 25) and an emitter layer (21a and 35) that are deposited on a collector layer (see Ryum, *et al.*, Fig. 3a). The emitter layer outside the emitter region is converted to a p++ first base semiconductor electrode film 21a by implanting BF_2 ions, while the emitter layer inside the emitter region 35 remains unchanged (see Ryum, *et al.*, page 3, paragraph 0018).

Ryum, *et al.* fails to teach or suggest second base semiconductor layers formed on the portions of the first base semiconductor layer except for the portions having the emitter region and the emitter insulating layers. Instead, in Ryum, *et al.*, the emitter layer is formed on the portions having the emitter region, however the portion of the emitter layer inside the emitter region 35 remains unchanged, while the portion of the emitter layer outside the emitter region is ion implanted. The emitter layer is formed in the portions having the emitter region.

Arai discloses a bipolar transistor with a base semiconductor layer. Arai fails to teach or suggest second base semiconductor layers.

Kameyama, *et al.* discloses the use of a SIC region. Kameyama, *et al.* fails to teach or suggest second base semiconductor layers formed on the portions of a first base semiconductor layer except for the portions having an emitter region and emitter insulating layers.

Josquin, *et al.* discloses the use of a cobalt or titanium silicide layer to improve ohmic contact. Josquin, *et al.* fails to teach or suggest second base semiconductor layers formed on the portions of a first base semiconductor layer except for the portions having an emitter region and emitter insulating layers.

Ryum '277 discloses the uses of spacer insulation films 12 and 13 between an Si oxidation film and a base thin film 19 (see Ryum '277 Fig. 4). Ryum '277 fails to teach or suggest second base semiconductor layers formed on the portions of a first base semiconductor layer except for the portions having an emitter region and emitter insulating layers.

Hence, none of the Ryum, *et al.* and Arai publications, and Kameyama, *et al.*, Josquin, *et al.*, and Ryum '277 patents teaches or suggests certain elements of the present invention set forth in claims 1-10. Specifically, none of the references teaches or suggests second base semiconductor layers formed on the portions of a first base semiconductor layer except for the portions having an emitter region and emitter insulating layers, as claimed in claims 1-10. Accordingly, there is no combination of the references which would provide such teaching or suggestion.

None of the references, taken alone or in combination, teaches or suggests the invention set forth in claims 1-10. Therefore, it is believed that claims 1-10 are allowable over the cited references, and reconsideration of the rejections of claims 1-3, and 6 under 35 U.S.C. § 103(a) based on Ryum, *et al.* and Arai is respectfully requested. Further, reconsideration of the rejections of claims 4 and 5 under 35 U.S.C. 103(a) based on Ryum, *et al.* in view of Arai and Kameyama, *et al.* is respectfully requested. In addition, reconsideration of the rejections of claim 7 under 35 U.S.C. 103(a) based on Ryum, *et al.* in view of Arai and Josquin, *et al.* is respectfully requested. In addition, reconsideration of the rejections of claims 8 and 9 under 35 U.S.C. 103(a) based on Ryum, *et al.* in view of Arai and Ryum '277 is respectfully requested.

In view of the amendments to the specification and the claims and the foregoing remarks, it is believed that all claims pending in the application are in condition for allowance, and such allowance is respectfully solicited. If a telephone conference will expedite prosecution of the application, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

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